

CLAIMS

What I claim is:

1 1. A payload dispensing system particularly suited for
2 being mounted on an unmanned aerial vehicle that
3 communicates with a ground control station, said system
4 comprising:

5 a) a receiver for receiving information from said
6 ground control station and providing corresponding output
7 signals;

8 b) a transmitter for transmitting information to
9 said ground control station;

10 c) an autopilot responsive to the output signals of
11 said receiver and providing corresponding output signals to
12 said transmitter;

13 d) a payload dispenser comprising:

14 (i) a computer having at least one port for
15 receiving output signals from said receiver and at least
16 one output port;

17 (ii) a magazine holding said payload comprising a
18 plurality of tubes each containing a capsule and each
19 having a cartridge actuating device responsive to an
20 electrical signal; and

21 (iii) a controller connected to said at least one
22 output port so as to receive information from said computer

23 and generating corresponding output signals therefrom, said
24 controller having electrical means for being connected to
25 each of said cartridge actuating devices, said controller
26 in response to said information from said computer
27 generating respective electrical signals to said cartridge
28 actuating devices causing respective capsules to be ejected
29 from said respective tube.

1 2. The system according to claim 1 further comprising a
2 first video camera mounted on the front of said unmanned
3 aerial vehicle and providing output signals that are routed
4 to said autopilot.

1 3. The system according to claim 2 further comprising a
2 second video camera mounted on said unmanned aerial vehicle
3 so as to view downward and providing output signals that
4 are routed to said autopilot.

1 4. The system according to claim 3 further a video
2 switcher interposed between said first and second video
3 cameras and said transmitter, said video switcher being
4 connected to receive and respond to said output signals of
5 said receiver.

1 5. The system according to claim 1, wherein said unmanned
2 aerial vehicle has a bomb bay with an opening and said
3 magazine is mounted in said bomb bay with said tubes being
4 exposed in said opening so that said capsules are ejected
5 from said opening.

1 6. The system according to claim 1, wherein said
2 electrical means for connecting said controller to each of
3 said cartridge actuating devices comprises a breech plate
4 having an appropriate wiring harness.

1 7. The system according to claim 1, wherein each of said
2 tubes has opposite ends with said cartridge activating
3 device at one end and a releasable cap at the other end.

1 8. The system according to claim 7, wherein said
2 releasable cap is plastic.

1 9. The system according to claim 1, wherein said payload
2 dispenser system further comprises a differential GPS
3 receiver providing output signals to an input port of said
4 computer.

1 10. The system according to claim 1, wherein said payload
2 dispenser system further comprises a first data link
3 receiving atmospheric data and providing output signals to
4 an input port of said computer.

1 11. The system according to claim 1, wherein said payload
2 dispenser system further comprises a second data link
3 interposed between said computer and said receiver and
4 receiving output signals from said receiver representative
5 of payload data link and providing output signals to an
6 input port of said computer and receiving output signals
7 from an output port of said computer.

1 12. A method of providing a payload dispensing system
2 particularly suited for being mounted on an unmanned aerial
3 vehicle that communicates with a ground control station,
4 said method comprising the steps of:

5 a) providing a receiver for receiving information
6 from said ground control station and providing
7 corresponding output signals;

8 b) providing a transmitter for transmitting
9 information to said ground control station;

10 c) providing an autopilot responsive to the output
11 signals of said receiver and providing corresponding output
12 signals to said transmitter;

13 d) providing a payload dispenser comprising:

14 (i) a computer having at least one input port for
15 receiving output signals from said receiver and at least
16 one output port;

17 (ii) providing a magazine holding said payload
18 comprising a plurality of tubes each containing a capsule
19 and each having a cartridge actuating device responsive to
20 an electrical signal; and

21 (iii) providing a controller connected to said at
22 least one output port so as to receive information from
23 said computer and generating corresponding output signals
24 therefrom, said provided controller having electrical means
25 for being connected to each of said cartridge actuating
26 devices, said controller in response to said information
27 from said computer generating respective electrical signals
28 to said cartridge actuating devices causing respective
29 capsules to be ejected from said respective tube.

1 13. The method according to claim 12, further comprising
2 providing a first video camera mounted on the front of said

unmanned aerial vehicle and providing output signals that are routed to said autopilot.

14. The method according to claim 13, further comprising providing a second video camera mounted on said unmanned aerial vehicle so as to view downward and providing output signals that are routed to said autopilot.

15. The method according to claim 14, further comprising providing a video switcher interposed between said first and second video cameras and said transmitter, said video switcher being connected to receive and respond to said output signals of said receiver.

16. The method according to claim 12, wherein said unmanned aerial vehicle has a bomb bay with an opening and said magazine is mounted in said bomb bay with said tubes being arranged so as to be exposed in said opening so that said capsules are ejected from said opening.

17. The method according to claim 12, wherein said provided electrical means for connecting said controller to each of said cartridge actuating devices comprises a breech plate having an appropriate wiring harness.

1 18. The method according to claim 12, wherein each of said
2 provided tubes has opposite ends with said cartridge
3 actuating device being placed at one end and a releasable
4 cap being placed at the other end.

1 19. The method according to claim 18, wherein said
2 releasable cap is plastic.

1 20. The method according to claim 12, wherein said payload
2 dispenser system further comprises a differential GPS
3 receiver providing output signals to an input port of said
4 computer.

1 21. The method according to claim 12, wherein said payload
2 dispenser system further comprises a first data link
3 receiving atmospheric data and providing output signals to
4 an input port of said computer.

1 22. The method according to claim 12, wherein said payload
2 dispenser system further comprises a second data link
3 interposed between said computer and said receiver and
4 receiving output signals from said receiver representative
5 of payload data link and providing output signals to an

6 input port of said computer and receiving output signals
7 from an output port of said computer.

1 23. A payload dispenser particularly suited for being
2 mounted on an unmanned aerial vehicle that communicates
3 with a ground control station, said payload dispenser
4 comprising:

5 a) a computer having at least one input port for
6 receiving output signals from said receiver and at least
7 one output port;

8 b) a magazine holding said payload comprising a
9 plurality of tubes each containing a capsule and each
10 having a cartridge actuating device responsive to an
11 electrical signal; and

12 c) a controller connected to said at least one
13 output port so as to receive information from said computer
14 and generating corresponding output signals therefrom, said
15 controller having electrical means for being connected to
16 each of said cartridge actuating devices, said controller
17 in response to said information from said computer
18 generating respective electrical signals to said cartridge
19 actuating device causing respective capsules to be ejected
20 from said respective tube.

1 24. The payload dispenser according to claim 23, wherein
2 said unmanned aerial vehicle has a bomb bay with an opening
3 and said magazine is mounted in said bomb bay with said
4 tubes so as to be exposed in said opening so that said
5 capsules are ejected from said opening.

1 25. The payload dispenser according to claim 23, wherein
2 said electrical means for connecting said controller to
3 each of said cartridge actuating devices comprises a breech
4 plate having appropriate wiring harness.

1 26. The payload dispenser according to claim 23, wherein
2 each of said tubes has opposite ends with said cartridge
3 activating device at one end and a releasable cap at the
4 other end.

1 27. The payload dispenser according to claim 26, wherein
2 said releasable cap is plastic.

1 28. The payload dispenser according to claim 23, further
2 comprises a differential GPS receiver providing output
3 signals to an input port of said computer.

1 29. The payload dispenser according to claim 23, further
2 comprises a first data link receiving atmospheric data and
3 providing output signals to an input port of said computer.

1 30. The payload dispenser according to claim 23, further
2 comprises a second data link interposed between said
3 computer and said receiver and receiving output signals
4 from said receiver representative of payload data link and
5 providing output signals to an input port of said computer
6 and receiving output signals from an output port of said
7 computer.